

Atty. Dkt. ~~UTS~~151

IN THE CLAIMS

The following is a replacement claim set.

Claims 1-10 (Canceled)

7. (Previously Presented) The fabric of claim 23, wherein the monomer is a carboxylic acid.
8. (Previously Presented) The fabric of claim 7, wherein the disinfectant is a peracid that is the derivative of the carboxylic acid, the method for producing the fabric further comprises:
reacting the carboxylic acid with a mineral acid and hydrogen peroxide to form the peracid on the fabric surface.
9. (Previously Presented) The fabric of claim 7, wherein the monomer is acrylic acid.
10. (Previously Presented) The fabric of claim 23, wherein the monomer is selected from the group consisting of quaternary ammonium salts, quaternary phosphonium salts, peracids, biguanides, iodophors, n-halamines and combinations thereof.
11. (Previously Presented) The fabric of claim 8, wherein the peracid grafted to the fabric is regenerable, the method further comprises:
regenerating the peracid by exposing the fabric to mineral acid and hydrogen peroxide.
12. (Previously Presented) The fabric of claim 23, wherein the fabric is selected from the group consisting of cotton, linen, gauze, polyester, nylon, acrylic and blends thereof.
13. (Previously Presented) The fabric of claim 23, wherein the monomer has a nonpolymerizable functional group selected from carboxyl, amino, hydroxyl, sulfhydryl, amido, and mixtures thereof.

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14. (Previously Presented) The fabric of claim 23, wherein the method of producing the fabric further comprises:

providing a polymerizable co-monomer along with the monomer to form a copolymer.

15. (Previously Presented) The fabric of claim 14, wherein the copolymers are selected from the group consisting of quaternary ammonium salts, quaternary phosphonium salts, peracids, biguanides, iodophors, n-halamines and combinations thereof.

16. (Previously Presented) The fabric of claim 14, wherein the copolymer contains a metal salt.

17. (Previously Presented) The fabric of claim 23, characterized in that the grafted fabric has sufficient disinfectant activity to kill microorganisms selected from the group consisting of gram-negative bacteria, gram-positive bacteria, mold, fungi and viruses.

18. (Previously Presented) The fabric of claim 17, wherein the gram-positive bacteria are *Staphylococcus aureus*.

19. (Previously Presented) The fabric of claim 17, wherein the gram-negative bacteria are selected from the group consisting of *Escherichia coli* and *Pseudomonas aeruginosa*.

20. (Withdrawn) The method of claim 6, wherein a disinfecting amount of the polymerizable monomer is grafted onto the fabric.

21. (Previously Presented) The fabric of claim 8, wherein the grafted fabric comprises sufficient peracid to detoxify pesticides.

22. (Previously Presented) The fabric of claim 8, wherein the grafted fabric comprises sufficient peracid to detoxify chemical and biological weapons.

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23. (Previously Presented) An antimicrobial fabric produced in accordance with a ~~method~~ comprising the steps of:

treating a fabric with ozone to form peroxide groups on the fabric;

decomposing the peroxide groups with an iron catalyst to form oxygen radicals; and

grafting a polymerizable monomer to the oxygen radicals on the fabric surface, ~~wherein~~
the grafted fabric comprises a disinfectant that is the polymerizable monomer or a derivative of the polymerizable monomer.

24. (Previously Presented) The fabric of claim 23, wherein the grafted fabric is formed into garments.

25. (Previously Presented) The fabric of claim 24, wherein the garments are selected from the group consisting of masks, scrubs, lab coats, and caps.

26. (Previously Presented) The fabric of claim 23, wherein the grafted fabric is formed into items selected from the group consisting of surgical drapes, bed sheets, bedding, privacy ~~drapes~~, towelettes, hygiene wipes, dressings and bandages.

27. (Canceled).

28. (Previously Presented) The fabric of claim 23, wherein the method is carried out without substantial disruption of interfiber adhesion of the fabric.

29. (Previously Presented) The fabric of claim 23, wherein the method is carried out without substantial loss of fabric strength by the fabric.

30. (Previously Presented) The fabric of claim 23, wherein the method is carried out without substantial loss of tensile strength, tear resistance and abrasion resistance by the fabric.

31-33. (Canceled).

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34. (Previously Presented) A protective fabric for protection against chemicals produced in accordance with a method comprising the steps of:

treating a fabric with ozone to form peroxide groups on the fabric;

decomposing the peroxide groups with an iron catalyst to form oxygen radicals;

grafting a carboxylic acid to the oxygen radicals on the fabric surface; and

oxidizing the carboxylic acid to a regenerable percarboxylic acid, wherein the percarboxylic acid is covalently bonded to the fabric to provide the protection against chemicals.

35. (Previously Presented) The protective fabric of claim 34, wherein the step of oxidizing the carboxylic acid to the regenerable percarboxylic acid comprises reacting the carboxylic acid with a mineral acid and hydrogen peroxide to form the regenerable percarboxylic acid on the fabric surface.

36. (Previously Presented) The protective fabric of claim 34, wherein the carboxylic acid is acrylic acid.

37. (Previously Presented) The protective fabric of claim 34, wherein the percarboxylic acid covalently bonded to the fabric is regenerable by the method further comprising

regenerating the percarboxylic acid after use by exposing the fabric to mineral acid and hydrogen peroxide.

38. (Previously Presented) The protective fabric of claim 34, wherein the fabric comprises sufficient grafted percarboxylic acid to detoxify pesticides.

39. (Previously Presented) The protective fabric of claim 34, wherein the fabric comprises sufficient grafted polymerizable monomer to detoxify chemical and biological weapons.

40. (Previously Presented) The protective fabric of claim 34, wherein the fabric is selected from the group consisting of cotton, linen, gauze, polyester, nylon, acrylic and blends thereof.

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41. (Previously Presented) The protective fabric of claim 34, wherein the fabric is formed into garments.
42. (Previously Presented) The protective fabric of claim 41, wherein the garments are selected from the group consisting of masks, scrubs, lab coats, and caps.
43. (Previously Presented) The protective fabric of claim 40, wherein the fabric is formed into items selected from the group consisting of surgical drapes, bed sheets, bedding, privacy ~~drapes~~, towelettes, hygiene wipes, dressings and bandages.
44. (Previously Presented) The protective fabric of claim 40, wherein the fabric is characterized as having disinfectant properties.
45. (Previously Presented) The protective fabric of claim 34, wherein the method is carried out without substantial disruption of interfiber adhesion of the fabric.
46. (Previously Presented) The protective fabric of claim 34, wherein the method is carried out without substantial loss of fabric strength by the fabric.
47. (Previously Presented) The protective fabric of claim 34, wherein the method is carried out without substantial loss of tensile strength, tear resistance and abrasion resistance by the fabric.
48. (Previously Presented) The protective fabric of claim 34, further characterized in that the fabric provides protection against microorganisms.
49. (Previously Presented) The protective fabric of claim 48, wherein the microorganisms are used in biological weapons.

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49. (Previously Presented) The protective fabric of claim 48, wherein the fabric has sufficient percarboxylic acid grafted to the fabric to kill microorganisms selected from the group consisting of gram-negative bacteria, gram-positive bacteria, mold, fungi and viruses.

50. (Previously Presented) The protective fabric of claim 49, wherein the gram-positive bacteria are *Staphylococcus aureus*.

51. (Previously Presented) The protective fabric of claim 49, wherein the gram-negative bacteria are selected from the group consisting of *Escherichia coli* and *Pseudomonas aeruginosa*.

52. (Previously Presented) The protective fabric of claim 49, wherein the fabric is formed into hygiene wipes.

53. (Previously Presented) The protective fabric of claim 49, wherein the fabric is formed into products useful for household disinfection.

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